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भाग 4 *p*H मान ज्ञात करना

Indian Standard

ACRYLIC BASED POLYMER WATERPROOFING MATERIALS — METHODS OF TESTS

PART 4 DETERMINATION OF *p*H VALUE

UDC 691·175·744·32 : 699·82·543·257·1

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NEW DELHI 110002

June 1992 **Price Group 1**

Waterproofing and Damp-Proofing Sectional Committee, CED 41

FOREWORD

This Indian Standard (Part 4) was adopted by the Bureau of Indian Standards, after the draft finalized by the Waterproofing and Damp-Proofing Sectional Committee had been approved by the Civil Engineering Division Council.

Acrylic based polymers are now extensively used in the country for waterproofing and damp-proofing purposes necessitating the need of formulating a specification on the product. For evaluating the quality and performance characteristics of the product, standardized test methods are necessary to guide manufacture and users of the product.

Methods of tests for acrylic based polymer waterproofing materials have been covered in the following parts:

Part 1	Determination of solid content
Part 2	Determination of coarse particles
Part 3	Determination of capillary water take-up
Part 4	Determination of *p*H value
Part 5	Determination of minimum film forming temperature and white point
Part 6	Alkali resistant test

While formulating the above standards the Committee has taken into consideration the facilities available in the country and the practice prevailing in other countries.

In reporting the results of a test or analysis made in accordance with the final value, observed or calculated is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'.

Indian Standard

ACRYLIC BASED POLYMER WATERPROOFING MATERIALS — METHODS OF TESTS

PART 4 DETERMINATION OF *p*H VALUE

1 SCOPE

1.1 This standard describes the method of determining *p*H value from the potential difference between measuring electrode immersed in acrylic based polymer waterproofing material.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard.

IS No.	*Title*
2711 : 1979	Specification for *p*H meters (***second revision***)
3225 : 1965	Methods for preparation of buffer solutions

3 PRINCIPLE

The *p*H value is determined by measurement of the electromotive force of a cell consisting of an indicator electrode (an electrode responsive to hydrogen ions such as a glass electrode) immersed in the the test solution and the reference electrode is usually achieved by means of a liquid junction, which forms part of the reference electrode. The electromotive force is measured with *p*H meter, that is, a high impedence voltmeter calibrated in terms of *p*H.

4 APPARATUS

Following apparatus shall be used for conducting the test:

a) ***p*H Meter** — Direct reading type conforming to IS 2711 : 1979 with glass electrode and a suitable reference electrodes.

b) ***A* 100 *ml Glass Beaker*** — With covering glass and slurring rods.

c) ***Wash Bottle*** — Containing distilled water.

d) ***Buffer Solutions*** — Standard *p*H buffer solutions from avilable tablets or powder, or known amount of chemicals may be used for the preparation. For preparation of buffer solutions IS 3225 : 1965 may be referred.

NOTE — The glass apparatus should be such that it is not affected by alkali.

5 PROCEDURE

5.1 50 ml of the sample shall be run into the 100 ml glass beaker. The temperature of the sample shall be brought to 27 ± 5 °C.

5.2 The *p*H meter shall be calibrated by means of standard buffer solutions having 4 and 7 *p*H respectively following the procedure recommended by the manufacturer. The electrode shall be washed with distilled water dried with the help of an ordinary filter paper.

5.3 Glass electrole shall be reused several times with the material to be tested and then put in the sample kept in the beaker. Two or three readings of the *p*H of the sample shall be made with brief stirring in between each reading. The reading should agree within ± 0·05 *p*H units. (No readings should be taken until the *p*H meter has reached equilibrium.)

5.4 After reading the *p*H value, electrodes shall be removed from the sample immediately and washed.

NOTES

1 If the sample is very viscous. 25 ml of it shall be diluted with 25 ml of freshly distilled water.

2 When not in use, the electrodes shall be left standing in a beaker of distilled water.

6 PRESENTATION OF RESULTS

The *p*H value of the sample shall be reported to the nearest 0·1 *p*H units.

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